

XIII.—Noctuid Moths from some of the Mountains of Sarawak. By MISS A. E. PROUT.

(With one Plate.)

As regards the numbers and, especially, the quality of species represented, the Noctuids of these collections are extremely interesting, though few occur in long series, a large number being single specimens. This has made the work of identification somewhat laborious, but the results have quite compensated by their interest for the labour involved, and the collections should prove of considerable value in enlarging our knowledge of the distribution of the Noctuidae in this very rich and interesting subregion.

Of the 66 species listed here 27 seem to be forms new to science or hitherto undescribed, whilst several of the others are doubtful identifications or new subspecies which there is insufficient material to establish, so that scarcely one-half are common or even certainly determined species.

Of the 27 new species and subspecies three are unfortunately too poor to be described; the others belong to the following subfamilies: *Acronyctinae* (5); *Erastrinae* (3); *Stictopterinae* (2); *Acontianae* (5); *Diptherinae* (1); *Ophiderinae* (8).

The Mt. Murud collection is certainly the most numerous of the five and the richest in new forms, 15 of the types coming from that locality, 3 from the summit and the others (where any elevation is given) from at least 6500 feet. This bears out our previous observations that, as a rule, collections begin to be really rich in species and (especially) in new forms of Noctuidae only at an elevation of well over 4000 feet. The Mt. Poi and Mt. Penrissen collections are both very interesting, the former being considerably richer in specimens and embracing 5 types, whilst the latter is remarkable for the fact that of the 8 specimens listed here, 3 are holotypes, 1 is a neallotype, and 2 others are paratypes; for the rarity of

species received, Mt. Penrissen takes the highest place of all, although the elevation of the majority of these is only 4400 feet and two species come from yet lower elevations. From Bakong we only received 4 common Noctuids; from Mt. Dulit only 7 specimens listed here, though one of these is the holotype of a new subspecies.

It will be noticed that the larger part of the previously known species were originally described from Sarawak or at least from the Malayan subregion; but a few are Indian insects which seem only to have been known from that subregion, and one (*Hulodes hilaris*) had been recorded only from the Papuan subregion.

Except in the *Ophiderinae*, references to number of specimens in Coll. Brit. Mus. are taken almost entirely from Hampson's "Catalogue of the Lepidoptera Phalenaë" (Vols. IV to XIII); it is not improbable that in some instances additional specimens have been received since the publication of that work.

AGROTINAE.

1. EPISILIA OCHRACEA Wlkr. form *frontalis* Moore.

Oxira ochracea Wlkr., Spec. Lep. Ins., xxxii, p. 657, 1865, Ceylon.
Graphiphora frontalis Moore, Lep. Ceyl., iii, p. 35, 1884, Ceylon.

Mt. Murud, 6000--6500 feet, October—2 ♀.

Certainly nearer to the *frontalis* than to the typical form but somewhat more variegated and a little paler than the type of *frontalis*; quite likely to be a distinct race as *ochracea* is only known from Ceylon; but from 2 ♀ it is impossible to decide with certainty the exact standing of the form. The other synonyms and localities quoted by Sir G. Hampson in his Cat. Lep. Phal., iv, p. 488. under *ochracea* appear to be erroneous.

ACRONYCTINAE.

2. MAGUSA OENISTIS Hmps. *murudensis* subsp. n.

♂ 45 mm.

Agrees very closely in size and colour with the typical form of *oenistis* Hmps., Cat. Lep. Phal., vii, p. 56, pl. cix, fig. 8, 1908, Brit. New Guinea, but the termen of fore wing is

distinctly more elongate in subspecies *murudensis* and the hind wing is less strongly produced to tornus. In coloration and pattern *murudensis* more nearly agrees with the typical form than with subspecies *pallida*, A. E. Prout, Bull. Hill Mus., 1, p. 202, 1922. Cent. Ceram., but the orbicular is smaller than in New Guinea specimens, the pale, waved sub-terminal line more clearly defined. The hind wing is a little paler than in typical *oenistis*, especially on the proximal half, and the discal lunule on the under side is distinctly larger.

Mt. Murud, 6000--6500 feet, November—2 ♂.

3. DIPTERYGIA VAGIVITTA Wlkr.

Dipterygia vagivitta Wlkr., Journ. Linn. Soc. Zool., vi, p. 185. 1862, Sarawak.

Lio Matu—1 ♀.

A local species, only recorded from Sarawak, though also represented in Coll. Joicey from S.W. Sumatra. Sir G. Hampson also mentions a subspecies from Christmas Is. It seems extremely probable that *indica* Moore, Proc. Zool. Soc. Lond., 1867, p. 51, and *japonica* Leech, Proc. Zool. Soc. Lond., 1889, p. 489, pl. 1, fig. 9, are also races of *vagivitta*. The Lio Matu specimen is a somewhat dark aberration.

4. TRACHEA ALBIDISCA Moore.

Hadena albidisca Moore, Proc. Zool. Soc. Lond., 1867, p. 59, pl. 6, fig. 17, Sikkim.

Mt. Murud, 6000--6500 feet, November—1 ♀ : Mt. Poi, 4400--5200 feet—8 ♂.

This species seems to have been recorded from China and India only, though specimens of it from Sarawak have been submitted to us by the Raffles Museum. Sarawak specimens are a little more sharply marked on the fore wing than Indian ones, slightly paler and more buff on the hind wing, with rather better developed cell-spot and postmedial line; they have also slightly less white at apex of fore wing and the ♀ (from Mt. Murud) has the white discal spot a little reduced in size. But all these differences are very slight, so that it has not seemed wise to erect a subspecies without seeing more material from both localities.

5. *TRACHEA ISOSCELATA* sp. n.

♂ 33 mm.

Antenna with short ciliation. Fore wing with down-turned hair in the cell, nearly as in *atrovirens*, *Hadena atrovirens*, Moore, Proc. Zool. Soc. Lond., 1867, p. 58, Sikkim, but weaker in anterior half. In Cat. Lep. Phal., vii, Sir G. Hampson ignores the presence of this hair in *atrovirens* and some of the neighbouring species, implying its absence in his keys. Abdomen clothed with rough hair and with slight lateral tufts.

Frons, body and legs predominantly buff or drab, with some fuscous shading; vertex of head and thorax deep olive-green with fuscous scales intermixed.

Fore wing above green suffused with fuscous-brown; four or five fuscous spots proximally and distally to the subbasal line, followed before the hind margin by a large fuscous patch; the medial fuscous area somewhat blacker and more distinctly triangular in shape than in *atrovirens*; this point differentiates *isoscelata* from all nearly-allied forms, the dark patch forming an almost perfect isosceles triangle, of which the antemedial line forms the base and the apex rests upon the costa just before apex of wing; this patch is only indistinctly interrupted by the pale-outlined orbicular and reniform and the anterior third of postmedial line, which latter is double, oblique from costa to SC⁵, thence inwardly oblique and waved; subterminal line weakly dentate (more strongly so on R³, M¹ and M²), dark-outlined on each side from SC⁵ to hind margin, where it is sharply bent outward to tornus; termen and middle of postmedial line pale bluish-grey; fringe ochraceous-buff, broadly shaded between the veins with fuscous. *Hind wing* very pale buff at base, broadly fuscous on distal half, the fringe bright buff. *Under-side* predominantly fuscous, the fore wing more ochraceous at termen, hind wing very pale buff on the proximal posterior fourth of wing.

Mt. Poi, 5200 feet—1 ♂.

6. *TRACHEA EMPHANES* sp. n.

♂ 4 mm.

Antenna with short fasciculate cilia.

Body and wings predominantly whitish, with some pale buff and tawny-brown shading; the veins streaked with tawny and white.

Fore wing with the lines and stigmata (except the claviform) white outlined on each side by brown, the subbasal and postmedial lines accompanied distally, the antemedial proximally by a broad very pale tawny shade; subbasal outwardly oblique to cell, inwardly oblique to SM², the hind margin beyond it streaked with white; antemedial weak at costa, obliquely excurved from the subcostal to hind margin; claviform faintly pale-outlined; orbicular an oblique white dash connected by a white streak behind M with the reniform, which is irregularly 8-shaped, each half filled in with tawny-brown, with a large white spot before it on costa; postmedial line excurved from costa to M¹ (where it nearly touches the reniform), slightly excurved in fold, obsolescent behind SM²; and in fold. *Hind wing* whitish-buff, the distal half suffused with pale reddish-fuscous. *Underside* whitish-buff, with slight fuscous shade on distal third; almost unmarked.

Mt. Murud, November, without exact elevation, one worn ♂.

It is possible that this specimen may have been originally tinged with green, but it shows no definite trace of that colour. Quite distinct in its markings from all other *Trachea* species yet known to me.

In both the foregoing species R¹ of the fore wing arises behind angle of cell (*well* behind angle in *emphanes*), and they also differ from *atriplicis* Linn., Syst. Nat. Ed., x, p. 517, 1758, Europe, in the following particulars. Hind wing with the cell a trifle shorter, with the costal curving away from the subcostal rather more abruptly; R² arising slightly nearer to R³ and more curved at its origin. Termen of both wings rather more evenly curved (less bent at the middle). Segment 2 of palpus fully diameter of eye (rather less in *atriplicis*); segment 3 more slender, without scaling in front. Fore tibia and tarsus nearly half as long again as in *atriplicis*, the tarsus more slender, not thickened at the joints. Abdominal crests on segments 2 and 3 looser (and longer?), with the scaling less compact.

In all these points the foregoing species agree much better with *aurigera* Wlkr., Spec. Lep. Ins., xv, p. 172, 1858, Sikkim, the type of the genus *Berrhoa* Wlkr., which may probably want separating from *Trachea* when a more careful revision of this group is undertaken. In the meantime the above two species may be regarded as members of the

Berrhoea section of *Trachea*, *emphanes* being somewhat aberrant in the distance of R^1 of fore wing from angle of cell.

7. *EUPLEXIA ALBOVITTATA* Moore *melasema* subsp. n.

♂ 36--39 mm.

Differs from typical *albovittata* Moore, Proc. Zool. Soc. Lond., 1867, p. 57, pl. 6, fig. 16, Sikkim, in the size being slightly smaller, the fore wing above a little less elongate and more darkly marked, the hind wing above and beneath a little more broadly darkened on costal and terminal areas. The medial dark band of fore wing is slightly broader than in the type-form, with the proximal tooth rather longer and more sharply pointed; the costa is darkened to apex (except for the usual white dots) and there is a rather narrow dark patch on anterior third of wing between reniform and post-medial line. The white discal spot on fore wing is much smaller than in typical *albovittata*, the dark spot on hind wing practically obsolete.

Summit of Mt. Murud, 7200 feet, November—2 ♂.

This subspecies is almost entirely without the tawny shades which are so noticeable in some *albovittata* forms and subspecies.

8. *ERIOPUS PRYERI* Btlr.

Platydasys pryeri Btlr., Proc. Zool. Soc. Lond., 1892, p. 126, pl. 6, fig. 6, Sarawak.

Bakong—1 ♀.

A moderately common insect, though somewhat local, recorded by Sir G. Hampson from Singapore and Borneo only. Warren, in Seitz Macro-Lepid., iii, p. 159, implies that *pryeri* also occurs in the Malay Peninsula and Amboina.

9. *ERIOPUS MAILLARDI* Guen. (?)

Eriopus maillardi Guen., Maillard's Réunion, Lép., p. 39, pl. 22, fig. 8, 1862, Reunion.

Lio Matu, 1 ♀ in poor condition, not certainly identified, but appears to belong to this common species, which occurs almost throughout the Ethiopian and Indo-Australian regions.

10. *ERIOPUS EXOTICA* Guen.

Eriopus exotica Guen., Spec. Gén. Lép., vii, p. 294, 1852, Java.

Bakong—1 ♂.

Found chiefly in the Borneo subregion, being recorded by Sir G. Hampson from Singapore, Java, and Sarawak only. Warren records its occurrence also in Assam, the Malay Peninsula, Bali and the Natuna Islands.

11. *ERIOPLUS CONCINNA* sp. n.

♂, ♀ 19--20 mm.

Antennal shaft normal. Tarsi glabrous; tibiae apparently only quite moderately fringed with hair; ♂ with a broad fold on proximal half of costa beneath, edged with very broad down-turned scales, which almost entirely cover the cell and extend across proximal end of submedian fold; M^2 rather strongly down-curved at its origin in ♂ (scarcely so in ♀).

Fore wing pale buff, banded with fuscous between the subbasal and antemedial lines, more or less suffused with rufous to postmedial line and slightly tinged with green on terminal area, especially in the ♀, which has less dark irroration than the ♂; lines pale, waved, dark-outlined, the subbasal and antemedial excurved throughout, the postmedial excurved at fold, bent outward to hind margin; claviform a slight patch of black scales; orbicular a black dot; reniform a more or less rounded patch of black irroration; a triangular dark mark on termen at about SC^5 to R^2 , with oblique pale teeth before and behind it. *Hind wing* whitish suffused with fuscous, with slight discal spot and postmedial line; a line distally to the postmedial and the fringe paler. *Underside* of both wings paler; hind wing with large, very black discal spot and rather broken postmedial line; fore wing with weaker spot and line and with fringe tipped with black.

Mt. Poi, 5200 feet—1 ♂; 4500 feet—1 ♂; Mt. Penrissen, 4400 feet—1 ♂, 1 ♀.

This appears to be an *Eriopus*, although the areole is minute (almost closed up), the scale-tooth at tornus is slight and the thorax is clothed *almost entirely* with scales, hardly "with hair and scales." Somewhat recalls a very small *Amyna* species, but R^2 of the hind wing is too much in the middle of the discocellulars for that genus. The fold and scales on fore wing beneath place it in a distinct section of the genus.

ERASTRIANAE.

12. ENISPA OLIGOCHRA sp. n.

♂ 17 mm.

Tongue present, though slender; antenna with long ciliation. Termen of both wings rounded.

Frons, palpus and legs pale brown shaded with darker brown; vertex of head, patagia and tegulae whitish-buff; the rest of the wings, thorax and abdomen rather pale purplish-brown; fringes buff shaded with pale rufous. *Fore wing* with three paler, more rufous lines, the ante and postmedial (or medial) nearly straight, the subterminal strongly excurved from costal pale area to R^1 and from R^1 to M^2 , these lines indicated at costa by dark spots; both wings with terminal row of black points. *Underside* pale grey, with costa of fore wing and fringes buff; fore wing more fuscous on proximal half; hind wing with darker discal spot and curved post-medial line.

Mt. Murud, 6500 feet, November—1 ♂.

By Hampson's key in *Cat. Lep. Phal.*, x, this species should fall with *flavicincta* Hmps., *Cat. Lep. Phal.*, x, p. 5, pl. cl, fig. 1, 1910, Singapore, but the two species are at once distinguishable by the broad pale shade at apex and on termen of fore wing in *flavicincta*, which is entirely wanting in *oligochra*.

13. EUBLEMMA COCHYLIOIDES (Guen.).

Micra cochylioides Guen., *Spec. Gén. Lép.*, vi, p. 245, 1852, Bourbon Is.

Pah Trap, November—1 ♀.

This species which is extremely widely distributed through the Ethiopian and Indo-Australian Regions has not at present been found to show any distinct racial variation.

14. TOANA species.

Mt. Poi, 4400 feet—1 ♂; Mt. Dulit, 3000 feet—1 ♀, probably the ♀ to the Mt. Poi ♂.

Both these specimens are, unfortunately, too poor to be made the type of a new species without risk of creating confusion for future workers, though the species appears to be new.

The general tone of wings above is rufous; the ♀ shows large yellow discal spots on both wings, which appear to be

absent in the ♂. The wings are paler beneath, especially the hind wing, which in the ♂ shows traces of yellow androconia as far as the pinkish postmedial line; the fore wing in both sexes is suffused with pale rufous in cell and fold. In structure both specimens seem to agree perfectly with Hampson's diagnosis of the genus *Toana* in Cat. Lep. Phal., x, p. 204.

TOANOPSIS gen. n.

Proboscis, eye and frons normal. Palpus rather short, with segment 2 slender, curved, hardly diameter of eye; segment 3 glabrous, acute, about one-fourth length of 2 or rather more. Legs normal; fore tibia and tarsus about one-third length of fore wing; mid-tibia and tarsus about three-fifths of fore wing; hind tibia and tarsus about two-thirds of fore wing. Thorax clothed chiefly with scales, apparently with rather flattened crests on pro- and metathorax. Abdomen with rather flattened scales (crests?) on one or two basal segments. Refinaculum semiquadrate. Anal tuft small. ♂ antenna typically with even ciliation somewhat more than diameter of shaft.

Fore wing with termen strongly curved, hardly crenulate; apex acute; costa flattened throughout. Cell about one-half length of fore wing, with discocellular 2 very weak; SC¹ from about (or just beyond) three-fifths of cell; SC² from a little before angle of cell; SC³, SC⁴, SC⁵ stalked, SC⁴, SC⁵ to fully three-fifths, SC³ to scarcely one-fifth; R¹ from distinctly *behind* angle; R² from close to angle; M² from about three-fifths of cell; M¹ from about three-fifths beyond M².

Hind wing with termen well-rounded, hardly crenulate; costa slightly arched towards base; cell about three-eighths length of wing, with discocellular 2 very weak; vein C anastomosing to scarcely one-third; R² about as strong as the other veins, from nearly two-thirds of discocellulars, slightly bent upward at its origin; SC⁵, R¹, R³ and M¹ normal; M² from about three-fifths of cell.

Note.—Vein C of hind wing is unusually nearly parallel with SC to end of cell, then rather strongly bent forward in a manner very uncommon in the Noctuidae. The strength of R² of the hind wing might almost place this genus in the

Ophiderinae, but the position of the vein is more as in the *Erastrinae*. Perhaps most nearly allied to *Toana* Wlkr., Spec. Lep. Ins., xxxii, p. 500, 1865.

Type *engenes* sp. n.

15. *TOANOPSIS ENGENES* sp. n.

♂ 24 mm.

Head and thorax dark brown shaded with dull red; abdomen greyish-fuscous. Wings dull brownish-red irrorated with fuscous. *Fore wing* with the costa broadly fuscous and with antemedial, medial and postmedial diffused blackish lines, the two former more or less straight, the postmedial broadly excurved round the cell, strongly bent inward in fold and bent outward to hind margin; a slight pale terminal line, broadening to spots at the veins and preceded by slight black lunules *between* the veins; orbicular represented by a black dot, reniform by a black lunule; all markings very obscure. *Hind wing* reproducing fore wing pattern, except for absence of dark costal shade and antemedial line; the postmedial line curved throughout. *Fore wing beneath* brown-fuscous, with slight dark discal spot and medial shade, a rather stronger, minutely waved postmedial line and four or five pale spots beyond it on costa. *Hind wing* much paler, with dark cell-spot and waved postmedial line. Termen of both wings and fringes as above.

Mt. Penrissen, 3500 feet—1 ♂.

16. *CARMARA SUBCERVINA* Wlkr.

Carmara subcervina Wlkr., Journ. Linn. Soc. Zool., vii, p. 63, 1864, Sarawak.

Mt. Murud, without exact elevation, November—2 ♀; Mt. Dulit, 3000 feet—2 ♀; Mt. Poi, 5000 feet—2 ♂, 1 ♀; 4500 feet—1 ♂; 4350 feet—1 ♀; 4300 feet—1 ♂; 2000 feet—1 ♀.

A widely distributed species, though not abundant; recorded from Ceylon, Borneo, Mysol, New Guinea and Queensland; represented in Coll. Joicey also from Rossel and Sudest Islands. Does not seem to show any strong racial variation.

17. *ORUZA DASYCARA* sp. n.

♀ 29 mm.

Palpus with segment 2 somewhat thickly scaled, segment 3 long (not very much shorter than 2) and densely scaled, somewhat dilated towards extremity; frons with a long tuft of hair above.

Head, thorax, and wings pale buff, largely diffused with pale violaceous-grey, which is somewhat deeper in tone between the oblique antemedial and the postmedial line, forming a darker band across both wings, which on the hind wing leaves only a very small pale area at base of wing, as in *vacillans*, *Selenis vacillans* Wlkr., Proc. Linn. Soc. Zool., vii, p. 189, 1864, Sarawak, which this species recalls in its scheme of pattern, though it is much more variegated in tone and has the anterior half of fore wing less strongly contrasted with the posterior half except at base: the lines somewhat as in *vacillans* but the postmedial much better defined and more waved (especially on fore wing), distally bordered with a yellowish shade, upon which the black spots on posterior half of hind wing stand out rather sharply: on the fore wing there is an oblique, diffused chocolate streak from apex behind the pale subapical patch, connected with an almost horizontal streak to end of fringe between R^2 and R^3 . *Underside* with the proximal half of wings (especially hind wing) darker than in *vacillans*, the hind wing with a pale yellow band from postmedial to subterminal line.

Mt. Murud, 6000-6500 feet, October—1 ♀.

In spite of the rather different palpus and the tuft of hair above the frons, which makes it impossible to see with certainty whether there is any frontal prominence, this species seems to fit well into the genus *Oruza* (as at present constituted). In the absence of the ♂ it is impossible to say with certainty in which section of the genus it should be placed.

18. PSEUDACIDALIA FULVILINEA Warr.

Pseudacidalia fulvilinea Warr., Seitz. Macro.-Lep., xi, p. 252, pl. 241, 1913, Malay Peninsula.

Mt. Poi, 4500 feet—1 ♀.

Although we have had no opportunity of comparing this specimen with Warren's type, it answers so well to the figure and description that I have felt no hesitation in referring it to this very interesting species, of which the ♀ type only seems to have been previously recorded. If the figure in Seitz Macro-Lep. is accurately coloured, the Malayan form is somewhat more rufous in tone than the Sarawak (which has very little rufous tinge), but from two specimens it is quite impossible to judge whether this is a racial variation.

19. LITHACODIA MARGINALIS Wlkr.

Acontia marginalis Wlkr., Journ. Linn. Soc., vii, p. 49, 1864, Sarawak.

Mt. Dulit, 3000 feet—1 ♂.

Recorded by Sir G. Hampson, in Cat. Lep. Phal., x, p. 507, from India, Ceylon, Sarawak, Pulo Laut and Java. Probably not uncommon, though (like many of *Erastriana*) somewhat overlooked on account of its small size.

EUTELINAE.

20. BOMBOTELIA SIMPLEX Wlkr.

Eutelia simplex Wlkr., Spec. Lep. Ins., xxxiii, p. 824, 1865, (hab. ign.).

Mt. Murud, 6500 feet, November—1 ♂.

A fairly common species in India; occurring also in Singapore, Sarawak, Cent. Ceram, Cent. Buru and the Fiji Islands. When more fully worked out it may very likely show some racial variation, but this is not apparent to any casual observation.

21. EUTELIA ANGUILIFERA Wlkr.

Anophia angulifera Wlkr., Journ. Linn. Soc., vii, p. 171, 1864, Sarawak.

Mt. Dulit, 3000 feet—1 ♂.

A somewhat rare species, recorded from Sarawak only.

22. ANIGRAEA RUBIDA Wlkr.

Anigraea rubida Wlkr., Journ. Linn. Soc., vi, p. 139, 1862, Sarawak.

Mt. Murud, without exact elevation, November—1 ♀.

Recorded from India, Singapore and Sarawak, not abundant though not really rare. The specimen from Mt. Murud belongs to a strongly-marked form with a highly raised, chocolate-brown discal tuft of scales on the fore wing; larger and finer than specimens in Coll. Joicey from Ceylon, Perak and Sarawak, but seeming to agree with one or two specimens in Coll. Brit. Mus. as *rubida*. There may possibly be two species mixed here, but from the size and the more rufous coloration of the figure of type in Cat. Lep. Het. Oxf. Mus., pl. 11, fig. 16, this apparently belongs to the typical form, though the type itself is unknown to me.

STICTOPTERINAE.

23. STICTOPTERA POIENSIS sp. n.

♂ 36 mm.

Fore wing purplish in tone, the proximal half (to medial line) deeper purple; antemedial line very strongly bent outward before and behind M and followed by two or three undulating lines, the best defined of which represents the medial line; a broad black mark in fold in the position of the claviform stigma; an oblique blue streak between postmedial and subterminal lines from R^3 to M^2 ; postmedial line and dark subapical dashes about as in *signifera*, *Steiria signifera* Wlkr., Spec. Lep. Ins., xiii, p. 1136, 1857, Sarawak: border of hind wing more as in *subobliqua*, *Steiria subobliqua* Wlkr., *ibid.*, Ceylon. Underside with the postmedial line more sharply defined and rather more crenulate than in either *signifera* or *subobliqua*.

Mt. Poi, 5000 feet—1 ♂.

In addition to the differences mentioned above, *poiensis* can be at once distinguished from *signifera* by the flattened costa of fore wing and more oblique termen; in *signifera* the costa is somewhat highly arched. In *subobliqua* the fore wing is slightly broader than in *poiensis* and the postmedial line beneath is almost obsolete, the average size larger.

One specimen in Coll. Brit. Mus., from Singapore, placed by Sir G. Hampson under *signifera*, appears to belong to this species.

24. STICTOPTERA SEMIALBA Wlkr.

Minica semialba Wlkr., Journ. Linn. Soc., vii, p. 175, 1864, Sarawak.

Mt. Poi, 5200 feet—1 ♂; Mt. Penrissen, 4400 feet—3 ♀; Mt. Murud, 6000--6500 feet, November—1 ♀.

The ♂ (from Mt. Poi) seems quite a typical *grisea* form of *semialba*, *Stictoptera grisea* Moore, Proc. Zool. Soc. Lond., 1867, p. 67, Sikkim; the ♀ are more uncertain, being a little intermediate towards *ferrifera*, *Steiria ferrifera* Wlkr., Journ. Linn. Soc., vii, p. 173, 1864, Sarawak, in the breadth of terminal band and darkening of hind margin of hind wing; but the medial and postmedial lines of fore wing are more as in *grisea* and as the ♂ almost certainly belongs to that species, it has seemed best to refer the ♀ also to *semialba*, form *grisea*.

One ♀ from Penrissen has the fore wing appreciably shorter and broader than the others, and is darker beneath, the fore wing being without the white in cellules 1b to 5 and having the costa of both wings rather more darkened. Quite possibly the ♀ to an, as yet, unknown ♂, but as it is taken at the same elevation as two more normal ♀ and the markings of fore wing above seem to be those of a dark *grisea* form it has seemed best to refer it to that species.

One of the other two Mt. Penrissen ♀ has the not-uncommon V-shaped white patch on proximal half of fore wing. The Mt. Murud ♀ has the proximal half of fore wing largely suffused with greyish-black.

But for a long series of *semialba* (typical and *grisea* forms) and of *ferrifera* in Coll. Joicey from S.W. Sumatra, which are quite easily separable, *ferrifera* might almost be regarded as a broad-bordered aberration of *semialba*, the two species being exceedingly close in size, shape and pattern of fore wing.

25. LOPHOPTERA CHALYBEA Wlkr.

Gadirtha chalybea Wlkr., Journ. Linn. Soc., vii, p. 161, 1864, Sarawak.

Mt. Murud, 6500 feet, November—4 ♀ : Pah Trap, November—1 ♂.

A good species, which seems only to have been previously known from the types of *chalybea* and *polygrapha*. *Gadirtha polygrapha* Wlkr., Journ. Linn. Soc., vii, p. 162, 1864. Sarawak. The types are, unfortunately, unknown to me, but the identification seems quite a safe one. Whether *polygrapha* sunk by Colonel Swinhoe to *chalybea* is really synonymous seems a little more uncertain.

26. LOPHOPTERA TRIPARTITA Swinh.

Gyrtona tripartita Swinh., Ann. Mag. Nat. Hist. (7), ix, p. 84, 1902, Perak.

Mt. Murud (?)—1 ♀. Belonging to the Mt. Murud collection but with the exact data wanting. A small aberration.

Recorded by Sir G. Hampson, in Cat. Lep. Phal., xi, p. 193, from Penang, Perak and Borneo. Also in Coll. Joicey from other parts of the Malay Peninsula and Java. Nowhere common, generally taken singly; perhaps a good deal overlooked.

27. *NIGRAMMA QUADRATIFERA* Wlkr. *eusema* subsp. n.

♀ 36 mm.

Head, patagia and prothoracic crest orange-brown shaded with chocolate, contrasting with the rest of the thorax and tegulae, which are violet-grey with only a few chocolate scales intermixed, the patagia and tegulae more broadly-scaled than in typical *quadratifera*, *Nigramma quadratifera* Wlkr., Spec. Lep. Ins., xxvii, p. 77, 1863, Ceylon, with much more of the metallic blue sheen which is occasionally present on a few scales on the thorax and fore wing of typical specimens. Fore wing more purple-grey than in the majority of typical *quadratifera*, with some chocolate-brown shading on the rounded orbicular and reniform stigmata and on each side of the subterminal line, and with oblique brown bars from the costa to the two stigmata. Orbicular rather better developed than in typical *quadratifera*. Terminal black spots on both wings rather broader than in the type-form. Under surface darker, the termen of hind wing almost as dark as the postmedial line, the fringe rather more darkened.

Mt. Murud, 7200 feet, November—1 ♀.

In spite of the fact that only a single ♀ from Sarawak is known to me the general appearance is so distinct from that of other specimens which I have seen that it has seemed safe to regard this as a distinct race from *quadratifera quadratifera*, which appears to be confined to Ceylon, where it is not uncommon.

28. *GYRTONA SEMICARBONALIS* Wlkr.

Gyrtona semicarbonalis Wlkr., Spec. Lep. Ins., xxvii, p. 92, 1863, Sarawak.

Mt. Murud, 6000--6500 feet, November—2 ♂, 4 ♀; without exact elevation, November—1 ♀, 2 ♂; without date—1 ♂.

An exceedingly variable series, but all agreeing in shape, in the hind wing and in the very characteristic subterminal dark spot in fold of fore wing. Two or three specimens belong to the typical form of *semicarbonalis*, and it seems probable that all are aberrations of one species.

A not common species, recorded from Ceylon, Perak, Singapore, Borneo, and New Britain. A series of specimens in Coll. Joicey from Cent. Ceram may also have to be referred to this species.

29. *GYRTONA OCHREOGRAPHA* Hmps.

Gyrtona ochreographa Hmps., Cat. Lep. Phal., ix, p. 216, 1912, Singapore.

Mt. Murud, 6000--6500 feet, October—1 ♀ ; November, without exact elevation—1 ♂.

Not a certain identification, but this appears to be a form of *ochreographa*, of which there are 2 ♂ and 1 ♀ in Coll. Brit. Mus., all from Singapore. In the Sarawak specimens the termen of fore wing seems slightly more oblique, but otherwise they agree well with the type.

30. *GYRTONA PROXIMALIS* Wlkr.

Gyrtona proximalis Wlkr., Spec. Lep. Ins., xxvii, p. 90, 1863, Sarawak.

Mt. Murud, 6000--6500 feet, October—1 ♀.

This species seems not uncommon in the Malayan subregion. It is recorded by Sir G. Hampson, Cat. Lep. Phal., xi, p. 218, from Selangor, Perak, Singapore, and Sarawak.

SARROTHRIPINAE.

31. *NANAGUNA BREVIUSCULA* Wlkr.

Nanaguna breviuscula Wlkr., Spec. Lep. Ins., xxvii, p. 85, 1863, Sarawak.

Mt. Murud, 7200 feet, November—1 ♀.

A common species, widely distributed throughout the Indo-Australian region, from the Punjab to Australia.

32. *LABANDA SATURALIS* Wlkr. (?)

Labanda saturalis Wlkr., Spec. Lep. Ins., xxxiv, p. 1251, 1865, India.

Mt. Murud, 6000--6500 feet, October—1 ♀.

This specimen appears somewhat too broad-winged for *saturalis* and may belong to a distinct species, but as the condition is rather poor, it is impossible to settle the question with certainty and it has seemed safer to regard the specimen as *saturalis*, which is recorded from Borneo, as well as from North and South India and Burma.

33. *RISOBA GLAUCA* Hmps.

Risoba glauca Hmps., Cat. Lep. Phal., xi, p. 428, 1912, Borneo.

Mt. Murud, without exact elevation, November.

Represented in Coll. Brit. Mus., by the ♀-type only. In Coll. Joicey from Sarawak and S.W. Sumatra.

In the ♀ from Mt. Murud there is less brown shading than usual on the proximal half of wing, but this appears to be simply aberrational, the specimen agreeing well in other respects with the typical form. Wings a little more blue-green, evidently owing to newer condition.

34. *RISOBA DIVERSIPENNIS* Wlkr.

Heliothis diversipennis Wlkr., Spec. Lep. Ins., xv, p. 1750, 1858, Punjab.

Lio Matu—1 ♂.

The anterior two-thirds of the proximal half of fore wing are unusually darkened, but there seems no doubt as to the species, which is recorded from the Punjab, Burma, Malay Peninsula, Singapore and Borneo. All in Coll. Joicey from Shanghai.

35. *MACROBARASA XANTHOSTICTA* Hmpsn.

Argyrothripa xanthosticta Hmpsn., Moths Ind., ii, p. 381, 1894, Sikkim.

Blenina xantholopha Hmpsn., Moths Ind., iv., p. 526, 1896, Assam.

Mt. Murud, November—3 ♀; Mt. Poi, 5200 feet—1 ♂.

Although this species (under the two names, *xanthosticta* and *xantholopha*) is only recorded by Sir G. Hampson from India, it occurs also in Ceylon, and in the mountains of Sumatra, Buru, Ceram, and New Guinea, where it is often exceedingly abundant.

ACONTIANAE.

36. *TITULCIA RUFIMARGO* Hmpsn.

Titulcia rufimargo Hmpsn., Cat. Lep. Phal., xi, p. 484, 1912, Sarawak.

Mt. Poi, 4350 feet—1 ♀.

A rare or overlooked species, previously known to me from the ♂-type only.

37. *EARIAS MJÖBERGI* sp. n.

♂ 30 mm.

Mid femur of ♂ much dilated, the tibia fringed with long hair on each side. Palpus normal.

Abdomen, pectus and legs more or less yellow, the legs partly purplish-brown, the tarsi ringed with white. Thorax and fore wing pale yellowish-green; termen and fringe a little darker green; a yellow shade at proximal third of costa. the costa itself at base deep brownish-red; antemedial line erect, faintly marked by deeper green and on proximal third dotted with deep reddish-brown; medial and postmedial lines faintly indicated by deeper green, the former waved, the

latter slightly oblique to R^1 , then erect. *Hind wing* semi-hyaline white, the extreme termen and fringe faintly tinged with green, especially on the anterior half. *Underside* white faintly tinged with green, especially on fringes; fore wing with proximal third yellow behind costa.

Mt. Murud, 6500 feet, November—1 ♂.

Quite a distinct species, intermediate between sections i and ii of Hampson, *Cat. Lep. Phal.*, xi, pp. 496--498.

38. *HYLOPHILODES DUBIA* sp. n.

♀ 38 mm.

Head and patagia very dull green; thorax apparently more or less whitish (almost descaled); abdomen appears whitish with some yellow hair on dorsum. *Fore wing* pale green, irrorated with dull green towards costa, the costa itself pale rufous (more conspicuously so towards apex); lines somewhat as in *rubromarginata*, *Hylophila rubromarginata* Beth-Bak.. *Nov. Zool.*, xiii, p. 219, 1906, Brit. New Guinea, but rather more parallel, more widely separated except at costa, apparently more tinged with red; a small greenish discal lunule; a slight green subterminal line, strongly incurved opposite cell and fold, but not acutely angled; fringe tipped with red; tornus rather acute. *Hind wing* white with a slight yellow tinge which might well be more strongly defined in a fresh-conditioned specimen. *Underside* shining white, fore wing with the costa and tips of fringe rufous.

Mt. Murud, 6500 feet, November—1 worn ♀.

The very poor condition of the single ♀ received has made me hesitate to describe this species as new; but it is almost certainly distinct from all the three previously known species and the acute tornus and direction of the lines, together with the locality, should prove sufficient guide to the identification of specimens which may subsequently be found.

39. *CAREA VARIPES* Wlkr.

Carea varipes Wlkr., *Spec. Lep. Ins.*, x, p. 475. 1856, Malacca.

Bakong—1 ♂.

A fairly common species, occurring in Hongkong, Assam, Ceylon, Malay Peninsula, Singapore, Borneo, Java, and Sumatra. Also in a local race in Ceram.

40. *CAREA PLESIGRAMMA* sp. n.

♂ 40 mm.

Hind tibia aborted, with only one spur; segment 1 of tarsus very long and dilated.

Head, thorax and fore wing dull ochraceous-brown tinged with rufous, the fore wing glossed with pale purplish-grey from medial to beyond postmedial line and (narrowly) on proximal side of subterminal; the medial and postmedial unusually nearly approximated especially towards costa, the medial straight and slightly oblique, the postmedial rather more oblique and slightly bent inward at fold; subterminal very indistinct, apparently a little excurved before and behind middle of wing; cell with a black dot on medial line, and another between medial and postmedial. *Hind wing* nearly uniform-red, a little tinged with pale fuscous before hind margin. *Underside* nearly uniform dull red.

Mt. Penrissen, 4400 feet—1 ♂.

Nearest to *C. egens* A. E. Prout, Bull. Hill Mus., 1, p. 418, pl. xxii, fig. 9, 1924, S.W. Sumatra, but differs from *egens* in having the markings of fore wing more diffused, and the hind wing more rufous.

41. CAREA ELAEOGRAMMA sp. n.

♂, ♀ 33 mm.

Hind leg as in the preceding species.

Head and thorax purplish-violet, largely suffused with dull olive-green. *Fore wing* pale pink thickly irrorated with violet, with fairly broad basal, medial and postmedial greenish bands, edged on each side by fuscous, the medial and postmedial moderately remote, a little oblique and waved, a minutely dentate, waved subterminal fuscous line, somewhat strongly angled outward before and behind middle of wing. *Hind wing* with the distal half pale red to just behind M^1 , the proximal half whitish, the posterior edge broadly pale grey. *Underside* of the fore wing reddish, of hind wing white, the costa and distal half of fold irrorated with reddish, the Mt. Penrissen ♀ with a reddish postmedial line.

Mt. Poi, 5000 feet—1 ♂; 5200 feet—1 ♀; Mt. Penrissen, 4400 feet—1 ♀.

Probably nearest to *C. nitida* Hmps., Moths Ind., ii, p. 423, 1894, Sikkim, but abundantly distinct.

42. CAREA ANTENNATA Warr.

Carea antennata Warr., Nov. Zool., xix, p. 43, 1912, N. Borneo.

Mt. Murud, summit—1 ♂; 6000--6500 feet, November—12 ♂; without elevation—1 ♂.

Two ♀, one from Mt. Murud, 6500 feet, November—one without exact elevation, are provisionally placed here, though the lines are more waved and the subterminal is not broken into spots. In the ♂ the exact distance between the lines varies perceptibly and the postmedial is slightly more bent behind the middle in some specimens than in others, but they belong unmistakably to one species.

43. *CAREA ELAEOSPILA* sp. n.

♀ 35--38 mm.

Hind leg as in Nos. 40 and 41.

Head olive-green; patagia, thorax and tegulae bright buff shaded with burnt sienna, the patagia tipped with whitish; abdomen grey above, tinged with pinkish beneath; pectus and legs pale violet-pink mixed with white.

Fore wing chocolate-brown largely irrorated with white except between postmedial and subterminal lines, with the cell largely filled in with olive-green between lower angle of cell and postmedial line; the veins from postmedial line to termen streaked with olive-green; antemedial line oblique from one-third costa to near middle of hind margin, angled inward and almost interrupted in cell; postmedial line more or less outwardly oblique and waved from two-thirds costa to R³, oblique to just beyond two-thirds hind margin; a nearly straight row of subterminal black spots between the veins; the fringe dull red. *Hind wing* fuscous with the fringe pale pink. Underside fuscous irrorated with dull red, the fringes dull red (paler and pinker on hind wing); fore wing with a patch of Indian red irroration about the end of areole and origin of subcostals; the fuscous shade (as usual) paler towards hind margin of wings.

Mt. Murud, 6000--6500 feet. October—1 ♀; November—2 ♀.

A very distinct species, perhaps least remote from *C. ocyra* Swinh., Ann. Mag. Nat. Hist. 6, xii, p. 262, 1893, Singapore.

44. *CAREA* species.

Mt. Murud, November—1 ♂.

This appears quite distinct from any previously known *Carea* species, but the condition is unfortunately too poor to admit of any adequate description.

45. *MACEDA MANSUETA* Wlkr.

Maceda mansueta Wlkr., Spec. Lep. Ins., xiii, p. 1141, 1857, Sarawak.

Mt. Murud, 6000--6500 feet, October—1 ♀; November—1 ♀.

A common, widely distributed species, occurring almost throughout the Indo-Australian region from Ceylon to Queensland.

46. *NEGETA SUBLINEATA* Wlkr.

Urbona sublineata Wlkr., Journ. Linn. Soc., vi, p. 184, 1862, Sarawak.

Mt. Poi, 4400 feet—1 ♀.

Although this species is recorded from N. India and Burma, as well as Borneo, it appears by no means common, Coll. Brit. Mus. having only three specimens, whilst the species is wanting in Coll. Joicey.

CATOCALINAE.

47. *PARALLELIA JOVIANA* Stoll.

Noctua joviana Stoll, Pap. Exot., iv, p. 237, pl. 399, f. B., 1782, Coromandel Coast.

Mt. Dulit, 3000 feet—1 ♂.

A common, widely distributed species, occurring from Loochoo Island and N. India to Queensland and the Loyalty Islands.

DIPHTERINAE.

48. *DIPHTERA MJÖBERGI* sp. n.

♂ 47 mm.

Structure normal, but abdomen without the black crests, unless these are worn off. The yellow hair on abdomen and base of hind wing pale, the black markings on thorax concentrated into a broad band on patagia, a large patch on pro- and mesothorax, a large tuft (almost crest) on metathorax, and single spots on the tegulae, joined to the large thoracic patch.

Fore wing very boldly marked, with two black patches, two or three small spots and a horizontal lunule on hind margin near base; somewhat erect but strongly dentate broad black antemedial and postmedial lines, with a spot between them on costa, joined by a bar on M, angled away from each other in cell and fold and approaching one another at hind margin; orbicular a black spot joined to the bar on M; reniform a perpendicular bar across angle of postmedial line; a large spot on costa and erect streaks with spots behind them in cell and fold beyond the postmedial line; subterminal line waved, broad, thickened and angled inward to the preceding line at cell and fold, joined to termen by a broad patch about R¹. *Hind wing* smoky-grey on distal anterior half, with veins fuscous. *Underside* with yellow hair very pale, covering most of the cell of hind wing; both wings broadly black at and behind apex, in addition to the normal black markings.

Summit of Mt. Murud, 7200 feet, November—1 ♂.

A handsome species, one of the most interesting of all the Noctuidae in this collection.

OPHIDERINAE.

49. SYPNA LUCILLA Btlr.

Sypna lucilla Btlr., Trans. Ent. Soc. Lond., 1881, p. 206, Sikkim.

Mt. Murud, November—1 ♀.

An Indian insect, not previously known to me from the Malayan subregion, but the ♀ from Mt. Murud seems to match well with some Indian ♀. Like many *Sypna* species is distinctly variable.

50. SYPNA RHO-LATINUM sp. n.

♂; ♀ 62 mm.

Male antenna subpectinate with evenly set ciliation from the sides of each tooth and a long fascicle of cilia from the end, the shaft deeply lamellate beneath. Both sexes with *fore wing* rich dark brown with the lines and an oval patch just before middle of termen tinged with pale rufous, one ♂ with the subterminal proximally enlarged to a broad rufous

band; orbicular typically a white dot; reniform pale-outlined, shaped like an almost perfect letter R; antemedial and post-medial lines dark on a pale rufous ground, well-defined, the former slightly angled on SC and very strongly angled outward in fold, the latter strongly (irregularly) excurved round cell, thence nearly erect, slightly excurved in fold; subterminal nearly straight to R^2 , thence gently excurved to M^2 . *Hind wing* brownish-grey with the tornal markings weak, the fringe pale buff to R^2 (faintly darkened at veins), thence smoky-grey to tornus. *Underside* with the dark markings leaden-grey, rather diffused; termen without pale shades; fringe of hind wing as above.

Mt. Murud, November, without exact elevation—1 ♂, 1 ♀; 6000--6500 feet, November—1 ♂ (ab.).

51. SYPNA LUDIFICA Swinh. (?)

Sypna ludifica Swinh., Ann. Mag. Nat. Hist. (8), xvi, p. 180, 1915, Kinabalu.

Mt. Murud, 6000--6500 feet, October—1 ♀; without elevation, November—1 very worn ♀.

This identification is not a certain one as I have been unable to see the type of *ludifica* and neither of the Mt. Murud specimens is in first-rate condition. They certainly belong to this group of the genus, but may agree with *subsignata* Wlkr., Spec. Lep. Ins., xv, p. 1261, 1858, Singapore, rather than with *ludifica*, supposing the two to be distinct species; but as they appear to me to be very probably no more than local forms of one species I have employed the name of the Borneo subspecies; *ludifica* may even prove to be no more than an aberration of *subsignata*.

52. SYPNA SUBROTUNDA sp. n.

♂ 52 mm.

Male antenna with proximal half of shaft moniliform, each segment bearing a thick fasciculate tuft of cilia (about twice diameter of shaft) on each side, the shaft slightly lamellate beneath.

Head, thorax and fore wing above purple-brown with the veins more leaden-grey; the markings a good deal as in *subsignata* (see above), but much less strongly contrasted on proximal half of wing, the postmedial and subterminal lines better defined, the latter with its discal dark edging broader,

especially about cellule 3, where it is broadened to an acute angle almost touching the terminal lunule. *Hind wing* unusually rounded off at apex, much more uniformly darkened than in *subsignata*, with only very faint traces of the pale postmedial line and subterminal half line, though the dark borders of the lines at and towards hind margin are weakly represented; anterior end of fringe whitish, interrupted by dark shading at vein C and almost entirely darkened from just before SC⁵. *Underside* a good deal as in *subsignata*, but more diffused, the postmedial line and border of hind wing less oblique at costa.

Mt. Murud, November—1 ♂.

Probably nearest to *subsignata* and to *S. coelisparsa* Wlkr., Spec. Lep. Ins., xiv, p. 1262, 1858, Assam.

53. SYPNA ANISOMERIS sp. n.

♂. ♀ 47--56 mm.

Antenna nearly as in the preceding species but with the ciliation slightly longer. Palpus with segment 3 unusually long, nearly one-third as long again as segment 2.

Coloration and markings somewhat as in the preceding species but the lines more ochraceous, bordered here and there with metallic-blue, the proximal border of subterminal paler, much broader than in *subrotunda*, the distal black border narrower, less produced in cellules 7, 6 and 3; the medial dark band is rather broader but even less conspicuous than in *subrotunda*; reniform much more distinct, with ochraceous outline somewhat as in *rho-latinum* but less distinctly R-shaped. *Hind wing* much paler than in *subrotunda* but more distinctly darkened towards termen, with the subterminal half-line better defined; the fringe pale at base and tips but more or less darkened at middle throughout. *Underside* largely suffused with fuscous, with the postmedial line diffused, nearly straight (not distally broadened) on fore wing, leaving an unusually broad dark border on both wings; the pale areas more darkened than in any of the neighbouring species.

Mt. Murud, 6000--6500 feet, October--November—3 ♂, 2 ♀; November, without elevation—1 ♀. The type is from 6000--6500 feet, November.

Near to *subrotunda*, but the third segment of palpus is longer, fore wing rather broader and hind wing less rounded off at apex. See also differences mentioned above.

54. *HULODES CARANEA* Cr.

Phalaena Noctua caranea Pap. Exot., iii, p. 140, pl. 269, ff. E.F., 1780, Java.

Mt. Poi, 5000 feet—1 ♀.

There seem to be two closely allied species occurring in Borneo and Sumatra, both passing as *caranea*; this specimen appears to belong to the local species, not to the widely distributed and better known one which is probably the true *caranea*.

55. *HULODES HILARIS* A. E. Prout.

Hulodes hilaris A. E. Prout, Ann. Mag. Nat. Hist. (9), viii, p. 27, 1921, New Guinea.

Mt. Poi, 4350 feet—1 ♂.

In all probability a close study of the species, based upon larger material, will reveal some racial difference between the typical (New Guinea) and the Sarawak form. In the meantime, the single ♂ from Mt. Poi must certainly be placed here rather than with *drylla* Guen., Spec. Gén. Lép., vii, p. 208, 1852, Central India, from which it differs in the longer, more dilated third segment of palpus and the more acutely angled hind wing.

56. *BOCULA DIVERGENS* sp. n.

♂ 35 mm.

Segment 3 of palpus extremely short; antennal shaft almost simple, with straight bristles and cilia slightly more than diameter of shaft; anal tuft very long and dense.

Head, body and *fore wing* pale brown, the wing broadly deeper buff-brown on the proximal half of costal area, flushed with very pale purplish-pink on posterior part and almost whitish about the postmedial line; very broadly chocolate-brown towards termen. Fine antemedial, medial and postmedial lines, almost equidistant, nearly erect but more or less strongly waved; the dark terminal shade reaching nearly to postmedial line at middle of wing, a little curved away to costa and bent outward to tornus from about M^2 ; reniform a black spot, orbicular almost obsolete; medial line with a second slight, similarly waved line on its distal side from M to hind margin. *Hind wing* pale fuscous-brown, with dark cell-dot and pale fringe. *Underside* pale buff, the fore wing largely suffused with fuscous-grey except on the veins, the costa deep buff. Hind wing with dark cell-spot and slight postmedial line.

Mt. Poi, 5000--5200 feet—2 ♂ (both unfortunately a little torn).

In this species vein C of the hind wing is not approximated to SC to much more than one-third of cell; in *caradrinoides* Guen., Spec. Gén. Lép., vii, p. 296, 1852, Java, the type of *Bocula*, the two veins are approximated to near middle of cell and there does not appear to be any real anastomosis at all. There are also one or two other (less important) differences between *caradrinoides* and *divergens*; but the latter so strongly resembles some *Bocula* species that I have not hesitated to place it in that genus. The above comparison is made with Indian specimens of *caradrinoides*, the species being unrepresented in Coll. Joicey from Java.

57. RIVULA BIOCULARIS Moore.

Rivula biocularis Moore, Proc. Zool. Soc. Lond., 1877, p. 614, Andamans.

Mt. Murud, November—1 ♀.

This ♀ appears to agree with a specimen in Coll. Joicey from Burma, determined by Sir G. Hampson as *biocularis*, though very doubtfully with specimens from Ceylon. It is also doubtful whether it agrees with Moore's type: but as the species stands at present this must be catalogued as *biocularis*, which is represented in Coll. Brit. Mus. from India, Ceylon, Andamans, and Sarawak. Also from Burma in Coll. Joicey.

58. PANILLA species.

Mt. Poi, 200 feet—1 ♀.

This ♀, which agrees well in most structural points with *dispila*, *Homoptera dispila* Wlkr., Spec. Lep. Ins., xxxiii, p. 890, 1865 (hab. ign.), the type of *Panilla*, appears to be new to science, but it is unfortunately not in sufficiently fresh condition to be described as new, especially in the absence of the ♂.

59. ZIGERA ALMANA Swinh. ♂.

Diomea almana Swinh., Ann. Mag. Nat. Hist. (7), viii, p. 499, 1901, Sarawak. (♀).

Lio Matu—1 ♂ ne-allotype.

This species seems to have been previously known from the ♀ only; Coll. Brit. Mus. has 2 ♀, the type and one from Singapore; in Coll. Joicey there is a single ♀ from Bidi, Sarawak.

The ♂ antenna is pectinated to just beyond middle, the pectinations being clothed with fine short bristles or stout hairs, the proximal pectinations five or six times diameter of shaft; termen of fore wing distinctly more oblique than in the ♀; both wings with a little more dark irroration. Otherwise agrees well with the ♀.

60. *CHILCASA FALCATA* Swinh.

Chilcasa falcata Swinh., Proc. Zool. Soc. Lond., 1885, p. 854, Bombay.

Summit of Mt. Murud, 7200 feet, November—1 ♀.

An Indian species, known also from Singapore and the Malay Peninsula.

61. *HAMODES PROPITIA* Guen.

Ophiusa propitia Guen., Voy. de la Coquille. tom. ii, p. 285, pl. xix, fig. 6, 1838, New Ireland.

Bakong—1 ♀.

A common species, widely distributed from India to New Guinea. Not personally known to me from New Ireland, but considering its wide distribution there seems no reason to question the identification, though there may well be some racial variation which has not yet been detected.

62. *OLULIS MURUDENSIS* sp. n.

♀ 28 mm.

Pro- and metathorax with distinct crests; R³ and M¹ of hind wing not stalked. The palpus is wanting.

Head and thorax pale greenish-brown; abdomen buff, paler beneath. *Fore wing* pale straw-colour tinged with olive-green, especially on medial area, on distal edge of postmedial line and on the veins; oblique pale subbasal and antemedial streaks from costa to SC, the latter followed by a green mark on costa and a short black horizontal dash behind C; medial line pale, distally dark-edged, obliquely curved, from two-fifths costa to near base of hind margin; reniform a proximally pale-edged dark lunule with rounded pale patch beyond it;

postmedial line pale, minutely dentate, distally edged by dark lunules, strongly excurved round cell and incurved in fold, where the dark lunule is thickened; subterminal line distally edged with pale olive-green, bent outwards behind R^2 where it is connected with the termen by an olive-green bar; marginal black lunules very sharply defined. *Hind wing* dull pink, except fringe and a patch on proximal two-thirds of wing from costa to middle of cell and R^1 , which are ochraceous-white. *Underside* very pale buff, the fore wing largely suffused with dull pink except at termen; both wings with discal spot and waved postmedial line.

Mt. Murud, November, without exact elevation—1 ♀.

Not a true *Olulis* (see thoracic crests); in reality nearest to *Marapana olivescens* Hampsn., Journ. Bombay Soc., xvii, p. 673, 1907, Ceylon, which Hampson has now placed in a MS genus. But as *murudensis* has little in common with *Marapana* and appears much nearer to *Olulis* I have placed it in the latter genus to avoid confusion with the MSS genus of Hampson.

63. MARAPANA INCONGRUALIS Wlkr. *carneipennis* subsp. n.

♂, ♀ 27--28 mm.

Differs from typical *incongrualis*, *Hypena incongrualis* Wlkr., Spec. Lep. Ins., xvi, p. 232, 1898, Ceylon, on the *fore wing* in having the subsidiary lines less well-developed (especially in the ♂), leaving the pink antemedial, postmedial and subterminal lines, the two black discal dots, the black marginal spots and the horizontal pink streaks towards termen the only distinct markings, and even these are weak. On the *hind wing* var. *carneipennis* differs from the type-form in the weaker fuscous shading on proximal half, which leaves the pink ground-colour much more noticeable. The *underside* of fore wing is also much pinker than in Ceylon specimens, the fuscous shade being confined to the discal lunule, a diffused postmedial line and a patch on terminal area, not reaching to costa; the fringe is, however, slightly more darkened at the veins in Sarawak and Malayan specimens. On the hind wing the fuscous shading is confined to the discal spot and the anterior half of fringe, the wing itself being ochraceous-whitish, with pink postmedial line and subterminal shade, the latter almost divided into a double line.

Mt. Dulit, 3000 feet—1 ♂. There are also before me 2 ♀ from Kedah Peak, 3200 feet, December, 1915, submitted to us by the Raffles Museum. A single specimen from Negri Sembilan, previously submitted to us and returned as (probably) merely an aberration of *incongrualis*, evidently from my notes (as well as from the locality) belongs to this subspecies; this last was an extra fine specimen, about 30 mm.

Like the last species, this appears really to belong to a new genus, for which Sir G. Hampson has a name in MSS; but to avoid collision with this MSS name I publish the subspecies under *Marapana*, the genus in which *incongrualis* was placed in the Moths of India, probably the latest generic name employed for it and certainly rather more suitable than *Hypena*.

64. MECODINA HYBRIDA sp. n.

♀ 47 mm.

In size, shape and tone of colour *hybrida* resembles a pale ♀ of *M. albodentata*, *Oglasa albodentata* Swinh., Ann. Mag. Nat. Hist. (6), xv, p. 13, 1895, Khasias, from which it differs in the following particulars. Segment 2 and 3 of palpus both appreciably shorter; fore and hind wing both slightly less sharply angled at middle; medial line bent inward in cell as well as in fold; reniform broader, with a slight line at middle (less distinct); postmedial line more dentate on R³ and M¹; the subapical triangular dark spot *not* followed by a dark streak to the termen; the waved metallic-blue line of *albodentata* replaced by subterminal white spots on the veins, more as in *Psimada quadripennis* Wlkr., Spec. Lep. Ins., xv, p. 1828, 1858, Canara. Similar subterminal white spots on the *hind wing*, followed by a pale buff terminal shade from M¹ to tornus. *Underside* a little greyer than in *albodentata*, with the white marks on costa of fore wing and the dark lines less sharply defined, but the slight pale subterminal spots on the veins as above; both wings with a slight rufous tinge towards costa.

Mt. Murud, November—1 ♀ holotype. A damaged ♀ in Coll. Joicey from S.W. Sumatra, North Korintji Valley, 5000 feet, September--October, 1921 (C., F. & J. Pratt), seems to match the type of *hybrida*.

This species forms somewhat of a link between *albodentata* and *quadripennis*, which Sir G. Hampson retains in separate genera, apparently on the strength of a not-very-apparent difference in the scaling of segment 2 of palpus. As a matter

of fact *albodentata* and *hybrida* agree with *Psimada* in almost as many points as with *lanceola* Guen., Spec. Gén. Lép., vii, p. 373, 1852, Silhet, the type of *Mecodina* Guen.

65. PANGRAPTA HYLAXALIS Wlkr.

Egnasia hylaxalis Wlkr., Spec. Lep. Ins., xvi, p. 222, 1858, Sarawak.

Mt. Murud, November, without elevation—1 ♀.

A fine, large specimen (36 mm.), with the tawny shades on thorax and base of fore wing a little extra bright and with a very conspicuous white belt on dorsum of abdomen at distal end of segment 2. On the underside the dark shading proximally to the reniform and the pale oblique bar from apex of fore wing are wanting; the discal spot on hind wing is unusually broad. These differences are probably only aberrational, though it is possible this may prove to be a constant high altitude form.

There is one ♂ from Java in Coll. Brit. Mus.; otherwise *hylaxalis* is known to me from Sarawak only, where it is apparently not common.

66. GRACILLINA PROSTHENIA Hmps. n.

Gracillina prosthena Hmps. n., Entom., lvii, p. 182, 1824, Singapore.

Mt. Penrissen, 2000 feet—1 ♂.

Described from a single ♂ from Singapore. Also in Coll. Joicey from Sungei Ujong and Sarawak. Apparently not a common insect.

67. THROANA CALLISTA sp. n.

♂ 30 mm.

In coloration and markings somewhat recalls *amyntoralis* Wlkr., Spec. Lep. Ins., xvi, p. 225, 1858, Sarawak, the type of *Throana*, but is altogether a more striking and handsome insect. The 2nd and 3rd segments of palpus are both rather longer than in *amyntoralis*; fore and hind wings rather longer and narrower, even more acutely angled at middle (especially fore wing) with fringes apparently rather more highly dentate.

Proximal half of fore wing and third of hind wing slightly paler violet-grey than in *amyntoralis*; Walker, in his description, omits to mention these pale areas, speaking only of the subapical pale patch on fore wing; the dark markings are chocolate-brown, strongly contrasting (not "testaceous"), on fore wing forming a distinct triangular patch on costa

proximally to the pale subapical patch. On the *hind wing* there is a distinct pale subterminal, in addition to the pale postmedial line; the yellowish-white "cuneiform" marks between these lines stand out more sharply; the postmedial is more oblique to hind margin than in *amyntoralis*. *Underside* slate-purple, except a pale grey area at and behind costa of fore wing, with bright brown shading about middle and towards tornus of wings, antemedial and medial line, subterminal on fore wing and fringes dark brown: a double, whitish, interrupted postmedial line and pale terminal spots on both wings; pale subterminal lunules on hind wing. Much darker and more contrasted than *amyntoralis*.

Mt. Penrissen, 4400 feet—1 ♂.

Note.—Four or five species belonging to the above subfamilies are held over and will, it is hoped, be published in a subsequent paper, together with the *Hypeninae*, in which subfamily these collections are somewhat rich.

Explanation of Plate 8.

NOCTUIDAE.

- Fig. 2. *Bocula divergens*.
 „ 3. *Trachea isoscelata*.
 „ 4. *Trachea emphanes*.
 „ 8. *Stictoptera poiensis*.
 „ 9. *Carea elaeospila*.
 „ 10. *Olulis murudensis*.
 „ 12. *Throana callista*.
 „ 14. *Toanopsis engenes*.
 „ 15. *Oruza dasycara*.
 „ 16. *Earias mjöbergi*.
 „ 20. *Sypna rho-latinum*.
 „ 21. *Sypna anisomeris*.
 „ 22. *Mecodina hybrida*.
 „ 24. *Sypna subrotunda*.
 „ 28. *Dipthera mjöbergi*.
 „ 42. *Hylophilodes dubia*.
 „ 45. *Enispa oligochra*.
 „ 47. *Eriopus concinna*.

All are types of ♂ names by A. E. Prout except figs. 22 and 42 which are ♀.



2



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8



9



10



12



14



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16



20



21



22



24



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42



45



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